

WHAT IS CLAIMED IS:

1. A switch being connected with a storage unit and a computer, said switch being connected with said storage unit through a plurality of communication lines, comprising:

a plurality of interfaces being connected with said storage unit or said computer;

an internal switch for connecting said plurality of interfaces with one another; and

wherein a first interface of said plurality of interfaces receives a command from said computer, transfers said command to said storage unit through a first communication line of said plurality of communication lines, if a trouble is detected in said first communication line, transmits a frame for noticing an error of said received command to said computer, after said frame for noticing an error is transmitted to said computer, and transfers a command to be received from said computer to said storage unit through a different second communication line from said first communication line.

2. A switch as claimed in claim 1, wherein said first interface determines a trouble occurs in said first communication line if no response to said command having been transmitted to said storage unit is received a certain length of time later.

3. A switch as claimed in claim 1, wherein said first interface detects a trouble occurring in said

first communication line by determining a cut-out of a physical connection with said storage unit.

4. A switch as claimed in claim 1, wherein said first interface includes a storage unit,

when said command is received, said first interface records in said storage unit an identifier for identifying said command, while when a frame for indicting an end of the process specified by said command is received from said storage unit, said first interface erases an identifier for said command corresponding with said frame from said storage unit, and

when a trouble is detected in said first communication line, said first interface transmits to said computer a frame for indicting an error of the corresponding command with the identifier recorded in said storage unit.

5. A switch as claimed in claim 4, wherein when a data transfer is started upon said command corresponding with the identifier recorded in said storage unit, said first interface records in said storage unit information for indicating execution of said data transfer, and

if a trouble is detected in said first communication line, said first interface creates a frame for indicating an error about said command having the information for indicating a transfer of said data recorded therein, said command being selected from the

corresponding commands with the identifiers recorded in said storage unit, and then transmits said created frame to said computer.

6. A switch as claimed in claim 5, wherein if a trouble is detected in said first communication line, said first interface transmits to said storage unit said command having no information for indicating a transfer of said data registered therein, selected from the corresponding command with the identifiers recorded in said storage unit, through said second communication line.

7. A switch as claimed in claim 1, wherein said first interface provides said computer with a virtual storage and, if a command from said computer to said virtual storage is received, translates said command to said virtual storage into a command to said storage unit.

8. A method of transferring a frame in a switch being connected with a storage unit and a computer, comprising the steps of:

receiving a command from said computer and then transferring said command to said storage unit through a first communication line;

detecting a trouble occurring in said first communication line;

transmitting a frame for noticing an error of said received command to said computer; and

after said frame is transmitted to said

computer, transferring into said storage unit a command to be received from said computer through a different second communication line from said first communication line.

9. A method of transferring a frame as claimed in claim 8, further comprising the steps of:

recording an identifier for indicating said received command; and

if a trouble occurring in said first communication line is detected, transmitting to said computer a frame for noticing an error of the corresponding command with said recorded identifier.

10. A method of transferring a frame as claimed in claim 9, further comprising the steps of:

recording a presence or an absence of a data transfer upon the corresponding command with said recorded identifier; and

if a trouble is detected in said first communication line, transmitting to said computer a frame for noticing an error of said command on which said data transfer is executed, selected from the commands for said recorded identifiers.